Dear absent Joe, 11/8/90

I've just finished reading a book about a most remarkable man of whom I presume that in your education if not your reading you heard about, Nikola Tesla. He was, among a multitude of other things, the father of the use of alternating current and of radio. He also got innumerable ideas about which he did nothing and did not even put down on paper for his own later use or that of others. He conceived and did nothing about what others later developed. This and his pioneering in radio, which was still in its infancy when I first got interested in it, got me to thinking about two things that I "invented" and did nothing about, either of which could have made me rich and famous.

I can't now be precise about the date but it was approximately 1930. I was visiting an older cousin in Philadelphia, an English teacher, a musician and a music critic. He had just heard about the Theremin. If you do not recall it, RCA had come out with it and gave it the name of the engineer who invented it. It was a radio oscillator converted into audible sound and controlled in a simple way, by waving the arms between a single metal rod on one side and a rod shaped like a loop on the other. As I explained this to my cousin Joe I criticized it as primative. I said that there could be much better control and much more pleasant sound, real music, by a series of fixed condensers controlled by a keyboard like that if a piano, each key a switch. Not too many ~~heard~~ years later Hammond got the same idea and thus the Hammond organ.

Now I do not recall whether it was at the same time, in conversation with that Joe, or in the same time frame, triggered by something else I may have mentioned in the past, an article I had written for our high-school magazine. What it The Whist?

Jimmy Borup, who you may remember, was the editor of the school paper. He was a friend. (His father helped Merganthaler invent the linotype machine that revolutionized printing.) He got into scholastic difficulties. He edited the paper and I was its managing editor, so for that year I was the de facto editor because he was not allowed any extra-curricular activities. The year I edited it we won the top prize at the Columbia School of Journalism's annual competition for high-school papers. We did not know this when Mary Dennison, faculty sponsor, took us up to Columbia for the gathering that included the award of prizes.

Belmont Faries, editor of The Whisp, was on the paper staff. He needed another article and asked me if I'd write one for him. Remember those railroad advertisements for the excursions of that era? Mostly long and narrow compared with writing paper. So, in Penn Station, New York, I took a handful and wrote the story on the return trip, on the train. I have only a slight recollection of it today but it theorized that the human body had a natural frequency and that a radio amateur or experimenter was killed by a radio transmission on that frequency from outer space. (My only science-fiction writing.) Years later, when Belmont was on The Washington Star, he phoned me to tell me that General Electric had done some work that more or less confirmed my theory in that hastily-written story.

It was at that time that I was or became aware that the higher frequencies have properties like those of light so I thought they could be controlled ~~light~~ like light. This made me think that high frequencies could be so closely and carefully focused they could be almost pinpointed. And that led me to an "invention" for landing airplanes in bad weather.

As I think about this now it may have come to my mind for the first time when I used to hang out at the transmitter of WDEL, then on the top floor of the Mullen Building at Sixth and Market. The engineers were also amateurs, as I was, and we were friends. They were helping the radio men sent by the Chicago Tribune to install the radios on a plane Gieaseppi Belanca had designed and manufactured at New Castle. It was called the flying gas tank. I think it was the first split-fuselage plane ever built and it was supposed to have a great range for that day. I helped those men, we became friends, and after the equipment was installed in the plane and they were to fly it to Chicago, they invited me to go with them. My mother would not permit it. Fortunately! They came down in bad weather and all were killed. So it might have been this that directed my thinking to landing airplanes in bad weather, when there was no visibility.

My idea was that by means of a series of closely-set and precisely focused transmitters each emitting a distinctive signal along the landing path of a plane it could be landed, without visibility, by the pilot adhering to the instructions he got from the signal, going from one to the next, the last putting him on the runway.

More than 30 years later I saw this coming into existence at airports and those structures of metal holding the antennae were set exactly as I'd thought as a teen-ager. As of my last observation they were still in use but that was more than a decade ago. But as of the time I got this idea it was not possible to use such ultra-high frequencies and with the improvement in technology perhaps they were not used in this system when it was invented and placed in use. By then it might have been possible to focus frequencies not so high.

Anyway, this came to mind in reading this book about so very interesting a man and I thought it might interest you.

Conceiving, more, devising something new is a joy, I learned when I was more mature. I wanted storage space in the first house we owned. It had only a half-cellar and I did not want it cluttered up with boxes. So, I devised and made a thing I called a "staircase" by means of which I used every cubic inch of space in and under the cellar stairs. Each riser was hinged at the top with minerature hinges and behind each was a plywood shelf. Behind the backs of these shelves, which had plywood backs and were of staggered depth, were closets of varying heights, the closer to the top the higher. And that stored all the tools not on the workbench, all the odds and ends of things used by a handyman in his home.

Tesla was a unique genius who, if he had had and could have listened to a manager would have been popularly famous, as Edison was, and very wealthy. He and Edison became enemies, by the way, although to begin with Tesla worked for Edison. They had their falling out over Edison's incorrect insistent that electrical current had to be direct. Tesla had invented a means of using alternating current, which had innumerable advantages. You may remember when there were still pockets of direct current. There were when I first went to Washington, and one had to be careful in making purchases, like radios.

Best,

Harold